

**Amendment and Response**

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Serial No.: 10/049,665

Confirmation No.: 4705

Filed: 11 April 2002

For: METHOD FOR PRODUCING A DENTAL PROSTHESIS

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**Amendments to the Claims**

This listing of claims replaces all prior versions, and listings, of claims in the above-identified application:

**1-16. (Canceled)**

**17. (Previously Presented)** A process for preparing a denture, comprising:

- a) preparing a blank comprising a presintered material,
- b) rough processing the blank by milling,
- c) fine processing the rough processed blank by milling,
- d) dense sintering the fine processed blank in a temperature range from 1200 to

1650°C,

the blank comprising the pre-sintered material having a raw breaking resistance from 15 to 28 MPa.

**18. (Previously Presented)** The process according to claim 17, in which the blank comprising the presintered material has a raw breaking resistance of 23 to 28 MPa.

**19. (Previously Presented)** The process according to one of claim 17 or 18, in which, during the milling of the blank, a tool of a processing machine operates at a speed of 5,000 to 40,000 rpm and a feed rate of 20 to 5,000 mm/min during the rough processing and a speed of 5,000 to 50,000 rpm and a feed rate of 20 to 5,000 mm/min during fine processing and in both rough processing and fine processing with a milling diameter of 0.8 to 4 mm.

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20. (Previously Presented) The process according to claim 17, in which the blank comprising the presintered material is processed from a side that contacts a tooth stump and from a side that does not contact a tooth stump.

21. (Previously Presented) The process according to claim 17, the blank comprising the presintered material comprising a zirconium oxide or an aluminum oxide ceramic.

22-33. (Canceled)

34. (Currently Amended) A The process according to claim 17 for preparing a denture, comprising:

- a) preparing a blank comprising a presintered material,
- b) rough processing the blank by milling,
- c) fine processing the rough processed blank by milling,
- d) dense sintering the fine processed blank in a temperature range from 1200 to

1650°C, in which the blank comprising the presintered material is made from a zirconium oxide ceramic, comprising:

- (A) 91 to 98.45 wt.-% zirconium oxide,
- (B) 0 to 3.5 wt.-% hafnium oxide,
- (C) 1.5 to 6.0 wt.-% yttrium oxide,
- (D) 0.05 to 0.50 wt.-% of at least one of the oxides of the elements aluminum,

gallium, germanium, indium,

- (E) 0 to 1.9 wt.-% coloring additives, calculated as oxides,

the wt.-% adding up to 100, the blank comprising the presintered material having a raw breaking resistance of 15 to ~~28~~ 30 MPa, the milling steps c) and d) provide a shrinkage-matched, enlarged model of an end denture and the dense sintering step d) produces a denture of having the end dimensions of the enlarged model.

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35. **(Previously Presented)** The process of claim 34 in which the milling to a shrinkage-matched, enlarged model of the end dentures is controlled by a CAD/CAM software.

36. **(Previously Presented)** The process of claim 34, in which the blank comprising the presintered material is aesthetically re-processed after the processing and densely sintered to the end dimensions of the enlarged model.

37. **(Previously Presented)** The method of claim 17, in which the pre-sintered material has been pre-sintered at a temperature of from 850 to 1000 °C.

38. **(Previously Presented)** The method of claim 17, in which the pre-sintered material has been pre-sintered at from 850 to 1000 °C for a period of from 0.5 to 4 hours.

39. **(Previously Presented)** The method of claim 34, in which the pre-sintered material has been pre-sintered at from 850 to 1000 °C for a period of from 0.5 to 4 hours.

40. **(Canceled)**

41. **(New)** A process for preparing a denture, comprising:

preparing a blank comprising a presintered material; and

dense sintering the blank in a temperature range from 1200 to 1650°C,

wherein the blank comprising the presintered material is made from a zirconium oxide

ceramic, comprising:

(A) 91 to 98.45 wt.-% zirconium oxide,

(B) 0 to 3.5 wt.-% hafnium oxide,

(C) 1.5 to 6.0 wt.-% yttrium oxide,

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(D) 0.05 to 0.50 wt.-% of at least one of the oxides of the elements aluminum, gallium, germanium, indium,

(E) 0 to 1.9 wt.-% coloring additives, calculated as oxides, the wt.-% adding up to 100.

42. (New) The process of claim 41 wherein the blank comprising the presintered material has a raw breaking resistance of 15 to 30 MPa.

43. (New) The process of claim 42 wherein the blank comprising the presintered material has a raw breaking resistance of 23 to 28 MPa.